What is claimed is:

1. A noise removal circuit comprising:

a 180-degree odd multiple shifting section for outputting a 180-degree shifted signal that is phase-shifted from an input signal by an odd multiple of 180 degrees; and

a difference output section for outputting a difference between the input signal and the 180-degree shifted signal.

2. A noise removal circuit comprising:

a 360-degree shifting section for outputting a 360-degree shifted signal that is phase-shifted from an input signal by an integral multiple of 360 degrees; and

a sum output section for outputting a sum of the input signal and the 360-degree shifted signal.

3. A noise removal circuit comprising:

a 180-degree odd multiple shifting section for outputting a 180-degree shifted signal that is phase-shifted from an input signal by an odd multiple of 180 degrees;

a 360-degree shifting section for outputting a 360-degree shifted signal that is phase-shifted from the input signal by an integral multiple of 360 degrees;

and

a calculation output section for outputting calculation results of a difference between the input signal and the 180-degree shifted signal and of a sum of the input signal and the 360-degree shifted signal.

4. The noise removal circuit according to claim 1, further comprising a synchronizing signal output section for outputting a synchronizing signal for synchronizing the input signal and the 180-degree shifted signal, wherein the difference output section output the difference in response to the synchronizing signal.

5. The noise removal circuit according to claim 3, further comprising a synchronizing signal output section for outputting a synchronizing signal for synchronizing the input signal and the 180-degree shifted signal, wherein the difference output section output the difference in response to the synchronizing signal.

6. The noise removal circuit according to claim 2, further comprising a synchronizing signal output section for outputting a synchronizing signal for synchronizing the input signal and the 360-degree shifted signal, wherein the sum output section output

the sum in response to the synchronizing signal.

7. The noise removal circuit according to claim 3, further comprising a synchronizing signal output section for outputting a synchronizing signal for synchronizing the input signal and the 360-degree shifted signal, wherein the sum output section output the sum in response to the synchronizing signal.

8. The noise removal circuit according to any one of claims 4 to 7, wherein the synchronizing signal output section is constituted by a phase-locked loop circuit and generate the synchronizing signal based on the input signal.

9. The noise removal circuit according to any one of claims 4 to 7, wherein the synchronizing signal output section is constituted by a delay-locked loop circuit and generate the synchronizing signal based on the input signal.

10. The noise removal circuit according to any one of claims 1 to 7, wherein the input signal is a wobble signal for rotation control that is detected from a recording track of an optical disk.

11. The noise removal circuit according to claim 8,

wherein the input signal is a wobble signal for rotation control that is detected from a recording track of an optical disk.

12. The noise removal circuit according to claim 9, wherein the input signal is a wobble signal for rotation control that is detected from a recording track of an optical disk.

13. A noise removal method comprising:

outputting a 180-degree shifted signal that is phase-shifted from an input signal by an odd multiple of 180 degrees; and

outputting a difference between the input signal and the 180-degree shifted signal.

14. A noise removal method comprising:

outputting a 360-degree shifted signal that is phase-shifted from an input signal by an integral multiple of 360 degrees; and

outputting a sum of the input signal and the 360-degree shifted signal.

15. A noise removal method comprising:

outputting a 180-degree shifted signal that is phase-shifted from an input signal by an odd multiple of 180 degrees;

outputting a 360-degree shifted signal that is phase-shifted from the input signal by an integral multiple of 360 degrees; and

outputting calculation results of a difference between the input signal and the 180-degree shifted signal and a sum of the input signal and the 360-degree shifted signal.

16. The noise removal method according to any one of claims 13 to 15, wherein the input signal is a wobble signal for rotation control that is detected from a recording track of an optical disk.